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المملكة العربية السعودية
Kingdom of Saudi Arabia

Letters Patent

Translation

Saudi Authority for intellectual property

The President of King Abdul-Aziz City for Science and Technology, in accordance with the Law of Patents, Layout Designs of Integrated Circuits, Plant Varieties and Industrial Models sanctioned by Royal Decree No. M/27 of 29.5.1425 AH (16 July 2004) and pursuant to the implementing bylaws issued according to the administrative decision No. 161-2-3607329 dated 30/12/1436 A.H. (13 October 2015), hereby grants:

TITAN OIL RECOVERY, INC.

Letters Patent No. SA 10069

Dated: 23/10/1443 A.H.

24/05/2022

in respect of the invention entitled:

**METHOD FOR INCREASING RECOVERY OF OIL FROM CARBONATE OIL RESERVOIRS
UTILIZING AN "IN SITU" ORGANIC APPROACH**

The owner of this Letters Patent is entitled to enjoy all the rights stipulated by the Patent Act within the Kingdom of Saudi Arabia.

The CEO of the Saudi Authority for Intellectual Property

Signed

Dr. Abdelaziz bin Mohammed AL-Suilem



(Translation)

[19] Saudi Authority for intellectual property
[11] Patent Number: SA 10069 B1

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[12] Letters Patent

[21] Application No.: 516380329 [22] Filing Date: 17/02/1438 A.H. (17/11/2016) [30] Priority: 62/000,786 US 20.05.2014 [72] Inventor: 1- CARROLL, Michael Thomas 2- HILL, Colin Kenneth 3- MARCOTTE, Brian W. G. [73] Owner: TITAN OIL RECOVERY, INC. Address: 9595 Wilshire Boulevard, Suite 303 Beverly Hills, California, 90212 (US), United States of America. Nationality: American [74] Agent: SMAS-IP.	[86] International appl. No.: PCT/US2015/031814 International appl. Date: 20.05.2015 [87] PCT Publication No.: WO/2015/179545 PCT Publication date: 26.11.2015 [51] Int. (IPC8): E21B 043/016. [56] References Cited: US 2001/0042579, US 2012/0122740 US 4971151 ,US 2011/0146973 US 2012/0261117. Name of Examiner: Bandar bin Ateeq bin Sunaid.
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[54] METHOD FOR INCREASING RECOVERY OF OIL FROM CARBONATE OIL RESERVOIRS UTILIZING AN "IN SITU" ORGANIC APPROACH.

[57] ABSTRACT:

A method of increasing oil recovery form a carbonate oil reservoir by determining the presence of microorganisms, determining a specific nutrient package to stimulate the microorganisms, delivering the nutrient package to the carbonate oil reservoir, and allowing the stimulated microorganisms to change the adhesion tension between the carbonate oil rock formation and the oil and the water.

Claims (15)



Translation

**This Letters Patent is valid up to
twenty (20) yearsas from the
filing date**

provided that the annuities thereof are timely paid,
and provided it is not rendered void or cease to
be valid due to violating any of the provisions
of the Law of Patents, layout Designsof
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